Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 217 (2016) 846 – 850

Procedia
Social and Behavioral Sciences

Future Academy®'s Multidisciplinary Conference

Students at university have mobile technologies. Do they do m-learning?

Alejandro Spiegel[a], & Georgina Rodríguez[a]*

[a] *TecMovAE, Facultad Regional San Nicolás, Universidad Tecnológica Nacional, Colón 332, San Nicolás, Argentina*

Abstract

The fact that university students have mobile technologies does not mean they use them for their academic activities. What do students do with their mobile devices? What guidance do they receive from their teachers at university?
Some answers were built from the theoretical framework. The research also involved collecting data from samples. For example, issues such as the ability to organize time and learning activities, what students know about technology, which activities they perform with it, or what they have learnt about it in the context of school education.
The study is framed by the tradition that attempts to understand social phenomena. Construction data technics were selected so as to let students express their own assumptions and analyze their social practices such as semi open surveys to students, semi-structured interviews to faculty and focus groups with students. All the information obtained was then triangulated.
It was found that they use their mobile devices despite the absence of instructions from their teachers. Although audiovisual language has turned to be young people´s favorite tool when they try to gather information, academics do not offer it as an option. We think that the use of this language appears as an opportunity for promoting the use of mobile technologies for academic purposes. Therefore, from this year on, we have rearranged our investigation focusing on the use of audiovisual resources.

Peer-review under responsibility of Future Academy® Cognitive Trading

Keywords: Mobile Technologies, University, audiovisual language

* Corresponding author. Tel.: +54-336-4425266; fax: +54-336-4420830.
E-mail address: tecmovae@frsn.utn.edu.ar

Peer-review under responsibility of Future Academy® Cognitive Trading
doi:10.1016/j.sbspro.2016.02.006

1. Introduction

Freshmen at our university in Argentina have mobile technologies (MT) with Internet access, and they use them in everyday life. By means of these technologies, it may be supposed that they access to resources related to their university studies. Therefore, it can be considered that the facts of having mobile devices and having Internet access combined together lead themselves to m-learning scenarios, the so-called mobile learning.

Nevertheless, these two facts are just some of the conditions that let the m-learning happen. So, which are the necessary requirements to let MT become tools (Spiegel, 2010) for their task of studying and building knowledge?

Learning is a subjective construction, in which students must be fully involved. For learning potential –in terms of Levy (1999) – to become true, occurrence of factors that have to be articulated is necessary: the personal involvement of the student; a cognitive structure and prior knowledge that allows new information be significantly integrated (Ausubel, 2002); skills linked with time organization and material conditions necessary to study, assignments or educational interventions and access with their MT to information on the Internet and to the resources provided by academics.

It is clear that some of these requirements depend on each subject; for example, the decision to get involved in the learning process, and the previous knowledge to meaningfully integrate and understand new concepts.

Consequently, since students in fact have mobile devices with Internet access –as it was said–, we will focus on the skills related to time organization and other necessary conditions to learn, which are or should be responsibility of the university.

In this matter, we ask questions such as “which tasks do faculty assign to students?”, “Which academic activities do students do with their MT, further than the ones that teachers ask them to do?”, “What time-management skills do students have to fulfill the assigned tasks across contexts of everyday life ? Finally, related to this last question, “What kind of training or guidance have they received from their mentors?”

2. Methodology

Data used for the analysis of the issues mentioned above, were gathered within the research project “Mobile Technologies at the University. Social Practices, Challenges and Opportunities in the First Year of University”, framed within the tradition that attempts to understand social phenomena. That is the reason why constructing data techniques was selected so as to let students express their own assumptions and analyze their social practices, without the goal of covering all of them nor generalizing the results. The tools selected were semi-open surveys to students and faculty, semi-structured interviews to faculty and finally focus groups with students. These data were later triangulated with each other (Denzin, 1978; Jick, 1979) and with usage statistics of the computer laboratories of the institution, so as to understand the social processes linked to the object of study, and enrich the analysis (Flick, 1998) with the combination of different approaches from the acknowledgement of the diverse perspectives that converge in the present research.

3. Findings and assumptions

During 2012 and 2013, surveys about the usage of MT that freshmen and first year academics do were conducted at Facultad Regional San Nicolás from the Universidad Tecnológica Nacional

It was found that almost 100% of students have mobile devices and most of them have access to Internet, at least part of the day, as it can be seen in Table 1.

Table 1. Students´ access to Internet

	2012	2013
All day	70%	74%
Part of the day	21%	21%

Also, most students said they had learnt what they knew about the management of their devices (Spiegel, 2013) alone or with peers. Therefore, students did not recognize learning about MT either at school or at university. This fact can be seen in table 2.

Table 2. How students learnt to use Internet

How did you learn to use Internet?	
I´ve learnt by my own, with friends or relatives…	87%
A teacher taught me…	13%

When students were inquired about the use of mobile devices for academic purposes, by their own initiative or by requirement of teachers, the results shown in table 3 were gathered.

Table 3. Some questions about the use of MT at first year of university

Question	2012	2013
Have teachers asked you to use your devices outside the classroom?	36%	59%
Have you used your netbook or any device outside the classroom for academic purposes?	42%	84%

It is interesting that, despite the lower percentage in 2012, by 2013 a majority of students (59%) stated that their teachers had asked them to use technological devices for learning purposes outside the classroom. From the data exposed, it can be seen that from one year to the next, teachers required their students an increasing use of MT. Both, in 2012 and 2013, the percentage of use of MT by students on their own initiative, overcame the percentage of teachers' assignments. Even more, in 2012 it was surpassed in a 6%, and in 2013 in a 25% (Rodriguez, Spiegel, Salviolo & Peña, 2015).

As previously stated, 95% of students said that they had learnt what they knew about management (Spiegel, 2013) of their devices alone in front of the screen, or from their personal relationships (friends, family, virtual contacts, etc.). In these terms, only 5% of these students recognized formal learning.

It could be assumed that students detected weaknesses in their training. But in our study, this is not the case. It is possible to see in Table 4 that 85% feel comfortable with what they know, and what they can do related to surfing the Internet.

Table 4. What students think about their skills with mobile devices

	My skill satisfies my needs	I´d like to know more about its use	I don´t know about it	No answer
How comfortable do you feel with your skills to find in the Internet what you are looking for?	85%	12%	0%	3%

Most teachers have the same feeling about the skills of their students. When they were asked about what knowledge or habits they believed that students had learnt about the use of their MT, they answered:

- *"…to manage bibliography, to explore, share and analyze information"*
- *"…to use software"*
- *"…to make PowerPoint presentations"*
- *"…search for information on the Internet, use of e-mail and social networks"*

Related to this, Egaña (2013) says that students have difficulties to find the academic information they need, that they are less capable than they think when searching for information, that they do not seek information in other languages and that they gather information in an unplanned and nonlinear way.

But Egaña (2013) does not include audiovisual material when he talks about the searches and language preferred by students. He states that they use Google for their searches, but he doesn´t go further inquiring about the means by which information is provided; they prefer among the options given by this search engine. In other words, he doesn´t inquire if the means in which information is given is relevant when they have to select one between the search results.

Meanwhile, within the framework of our research, we became aware that audiovisual language was strongly considered when searching and selecting information sources. It emerged from the interviews that, as part of their academic tasks, an increasing number of students search and find in YouTube answers to many of the questions that arise in class. Also, some students record the lessons delivered at university by their own initiative, so as to listen to them later. These examples show that they expect their teachers to provide them with this type of material: audiovisual support portable on their MT that, according to the interviews carried out and some comments included in the surveys, is the way they choose to access knowledge (Rodriguez, 2014). This is another example of the gap between the social practices that students really do and what their teachers imagine. This preference for videos is undetected by most faculty. They believe that what students know about the use of computers (Spiegel, 2013) also includes the necessary skills for the search of information, but they don´t record the students´ preference for the audiovisual language. Consequently, most of the sources of information that are published or recommended are textual, on paper or printable media.

According to Valero (2012), the word “distance” inside the context of m-learning, implies that “content recovery or access to content can be done in motion, regardless of the place, and taking advantage of the available time”. Nevertheless, this matter is not quite simple: it is the self-regulation of issues like learning in isolation, time management or effective implementation of activities related to learning at university, while moving across contexts of daily life with other stimuli involved. The understanding of information using TM is disrupted by this “noise” but has the advantage of happening at any time and at any place, opposed to the limitations and advantages that a priori offers being in a classroom, having a teacher organizing tasks, having a group to share the same problems, etc.

Referring to the lack of teachers´ assignment of tasks involving MT, the contribution or differential advantage (Spiegel, 2010) of these technologies to the teaching and learning processes is not recognized. It is also possible that some change resistance appears, due to the fear of being overwhelmed by the accumulation of tasks required to adapt materials and incorporate new methodologies that integrate MT actively in class. In all cases, the limited use of available MT detected is probably related to unfulfilled needs of academics´ training. It doesn´t sound strange that, for example, Conole, De Laat Dillon & Darby (2008) say that at universities in England, tasks assigned by academics involving MT are limited or scarce; or Pedró (2012) arguing “it is clear that not all teachers are eager to incorporate technology to their teaching”.

In summary, it is not enough to have MT to achieve learning when doing m-learning; nor these devices are constituted –as Piatini and Mengual (2008) said– in change accelerators at educational institutions, since –in words of Area (2010)– "we need to be more qualified than we were in previous decades to use and appropriate digital information and technology". And doing this with the available MT during our journey across the daily contexts, brings new challenges. It would require college training for students to face these new challenges. And this training is not available on screens or in affinity groups.

Although they are not still firmly established in the university schedule, these teachings practices are essential, not only to add better opportunities for the academic performance of students at college, but also for their practices as future professionals.

4. Conclusion

As exposed above, students use their mobile technologies for studying, despite the absence of their teachers´ assignment. While this fact could be seen as a consequence of the social practices they carry out outside the classroom, it can´t be considered as a learning practice related to the use of the devices. On the other side, both faculty and students believe that the latter know enough for taking advantage of their mobile devices for their academic activities.

As we said before, (Spiegel, Rodriguez, Salviolo, Peña & Ferrarasi, 2013) it would be interesting to design teacher training instances and ways of pedagogical support for teachers to recognize the ways of learning of the new

subjects, and thus tap the potential of new mobile equipment inside and outside the classroom. Teachers should be strengthened in the construction of tasks where MT are effective tools for collaborative, flexible, spontaneous, informal, and based-on-problem-resolution learning (Valero, 2012).

When searching for information, students prefer audiovisual language, but this resource is not considered as an option when academics prepare and offer material. Hence, audiovisual language looks like an opportunity for promoting the use of MT at the university. That´s the reason why we implemented a training during 2014, "How to take advantage of mobile technologies in classes at the university. The inclusion of audiovisual resources and its potential", and since this year, we have started a new research project: "Taking advantage of mobile technologies on the teaching and learning processes at the university. The place of the digital video". Within the framework of this Project, we have extended the research we have been doing in the first year at college, to all levels of engineering careers, focusing on the use of audiovisual resources.

Acknowledgements

We are grateful to Prof. María Josefa Maggi for her assistance in the revision of the linguistic aspects of this paper.

References

Area Moreira, M. (2010). ¿Por qué formar en competencias informacionales y digitales en la educación superior? *Revista de universidad y sociedad del conocimiento*, 7(2), 3-5.

Ausubel, D. (2002). Adquisición y retención del conocimiento: Una perspectiva cognitiva. Barcelona: Paidós.

Denzin, (1978). The Research Act. A Theoretical Introduction to Sociological Methods. New York: Mac Graw-Hill.

Conole, G., De Laat, M., Dillon, T. & Darby, J. (2008). "Disruptive technologies', 'pedagogical innovation': What's new? Findings from an in-depth study of students use and perception of technology". *Computers and Education*, 50(2), 511–524.

Egaña, T. et al (2013). "¿Cómo buscan información académica en internet los estudiantes universitarios? Lo que dicen los estudiantes y sus profesores". *EDUTEC. Revista Electrónica de Tecnología Educativa*, 43.

Flick, U. (1998). An introduction to qualitative research. London: Sage Publications.

Jick, T. (1979). Mixing Qualitative and Quantitative Methods: Triangulation in action. *Administrative Science Quarterly*; 24(4), 602-610

Levy, P. (1999). ¿Qué es lo virtual? Barcelona: Paidós Ibérica.

Pedró, F. (2012). ¿La Tecnología está transformando la educación superior? Evidencias e implicaciones de política educacional. http://forovalparaiso2012.files.wordpress.com/2012/04/francesc-pedrc3b3-en-espac3b1ol.pdf (last visited: 07-15).

Piattini, M. & Mengual L. (2008). Universidad Digital 2010. *Libro Blanco de la Universidad Digital*. Madrid: Ariel.

Sancho, J. (2006). Tecnologías para transformar la educación. Madrid: Akal.

Rodríguez, G., Spiegel, A., Salviolo, M. & Peña, A. (2015). Math, English and Netbooks at the University. Learning Across Contexts? *Procedia - Social and Behavioral Sciences* 76, 714–721

Spiegel, A. (2010). Planificando clases interesantes. Buenos Aires: Novedades Educativas.

Spiegel, A. (2013). Ni tan genios ni tan idiotas. Tecnologías: que enseñar a las nuevas generaciones (que no sepan). Rosario: Homo Sapiens

Spiegel A. Rodriguez G., Salviolo M, Peña A. & Ferrarasi, S. (2013). Impact of mobile technologies at the University in Argentina. *Procedia - Social and Behavioral Sciences* 106, 1435-1441

Valero, C., Roura Redondo, M. & Sanchez Palacín, A. (2012). Tendencias actuales en el uso de dispositivos móviles en educación. *La Educ@ción digital magazine*, 147. Available at: http://educoas.org/portal/la_educacion_digital/147/pdf/ART_UNNED_EN.pdf (last visited 07/15)